A Committee Committee Committee

Lockheed Missiles & Space Company, Inc.

Sunnyvale, California

December 20, 1989

TSCA Document Processing Center (TS-790)
Office of Toxic Substances
U.S. Environmental Protection Agency
Room L-100
401 M Street S. W.
Washington, D. C. 20460

Sirs:

This package contains the completed CAIR report forms for those chemicals on which Lockheed Missiles and Space Company (LMSC) is reporting, as listed in the Chemical Substance Matrix, section 704.225 of the December 22, 1988, Federal Register. Of the substances listed, the only ones which LMSC uses and which are not clearly exempted from reporting, are Toluene Diisocyanates (TDI).

The seven reports being filed are for the following chemicals:

Conathane DPEN-8536 (two reports filed for the two EPA facilities within LMSC)

We have been notified by the supplier via the June 14 Federal Register listing. We are using this product at two different EPA facilities of LMSC, as indicated in the reports.

Eccofoam FPH

We have not received a letter from the supplier, but have verbal information that he is preparing a written notification.

Scotch Cast Brand Resin 221

We received no letter from the supplier, who has indicated that they did not notify us since they are no longer producing this material, but would have if they were still manufacturing it.

Stafoam P1100 Series, Component T (three reports filed for the three different densities of this product).

We received no letter from the supplier since that company is exempt from reporting because of the size of their business and the volume of TDI that they manufacture.

We are reporting to you for all of these chemicals, because we consider the intent of the regulation makes it appropriate to report, even though in three of the four cases there may be a technicality which might be construed as reason not to report.

This report is provided within the timeframe requested in our letter dated September 28, 1989, and which was re-sent on November 20, 1989. On December 19, 1989, we received telephone confirmation that this request had been granted.

TSCA Document Processing Center (TS-790) Page 2 December 20, 1989

If further information is needed, please call Barbara Jinbo [(408) 742-1193], who is the technical contact as listed on the report form.

Sincerely,

LOCKHEED MISSILES & SPACE COMPANY

George M. Tomer, Mahager
Occupational Safety and Health
O/47-20, B/106
1111 Lockheed Way
Sunnyvale, CA 94089
(408)743-2600

GMT:elm Enclosures



Form Approved
OMB No. 2010-0019
Approval Expires 12-31-89



90.90000032

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Comprehensive Assessment Information Rule REPORTING FORM

When completed, send this form to:

Document Processing Center
Office of Toxic Substances, TS-790
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Attention: CAIR Reporting Office

Docket Number:

PART	A G	GENERAL REPORTING INFORMATION
1.01	Thi	s Comprehensive Assessment Information Rule (CAIR) Reporting Form has been
<u>CBI</u>	CON	expleted in response to the <u>Federal Register Notice of $[7]2[2]2[2][8]8$</u>
[_]	a.	If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal
		Register, list the CAS No $[0]0]0]5]3]4]-[3]4]-[9]$
	b.	If a chemical substance CAS No. is not provided in the <u>Federal Register</u> , list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the <u>Federal Register</u> .
		(i) Chemical name as listed in the rule NA
		(ii) Name of mixture as listed in the rule NA
		(iii) Trade name as listed in the rule NA
	c.	If a chemical category is provided in the <u>Federal Register</u> , report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.
		Name of category as listed in the rule NA
		CAS No. of chemical substance
		Name of chemical substance
1.02	Ide	ntify your reporting status under CAIR by circling the appropriate response(s).
CBI		ufacturer 1
[_]	Imp	orter 2
		cessor
		manufacturer reporting for customer who is a processor 4
		processor reporting for customer who is a processor

1.03 CBI	Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?
	Yes [$\overline{\underline{v}}$] Go to question 1.04
	No
1.04 <u>CBI</u> []	a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response. Yes
1.05 <u>CBI</u> []	If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name. Trade name
	No 2
1.06 CBI	Certification The person who is responsible for the completion of this form must sign the certification statement below:
[_]	"I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate." George M. Tomer
	NAME SIGNATURE DATE SIGNED
	Manager, Occupational Safety TITLE and Health (408) 743-2600 - TELEPHONE NO.
[<u>]</u>] M	ark (X) this box if you attach a continuation sheet.

1.03 CBI	Does in	the the al	substance you bove-listed <u>Fe</u> c	are reporting o deral Register N	n have an "x/p" designation otice?	associated with it
					[<u>v</u>]	
`'	No .	• • • • •	• • • • • • • • • • • • • • • • • • • •		[_]	Go to question 1.05
1.04 <u>CBI</u>		Circl	r a trade name(le the appropri	s) different th	cess the listed substance ar an that listed in the <u>Federa</u>	Register Notice?
			the appropria		NA	
		[_]	You have chos	en to notify you	ur customers of their report	ing obligations
			Provide the t	rade name(s)	NA	
					NA	
		[_]	You have chos	en to report for	your customers	
		[_]	You have subm date of the rreporting.	itted the trade ule in the <u>Fede</u> r	name(s) to EPA one day afte al <u>Register</u> Notice under wh	r the effective ich you are
1.05 CBI	repo.	LUING	y a trade name requirements	by your trade na	reporting because you were ame supplier, provide that t	notified of your rade name.
[_]	Is th	ne tra	ade name produc	ct a mixture? (ircle the appropriate respon	nse. NA
	Yes .	• • • • •	••••••	• • • • • • • • • • • • • • • • • • • •	••••••••	1
	No .	• • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	2
l.06 CBI	Certi sign	ficat	tion The per certification s	rson who is resp statement below:	onsible for the completion o	of this form must
	"I he enter	ereby ed on	certify that, n this form is	to the best of complete and ac	my knowledge and belief, all curate."	information
			NAME		SIGNATURE	DATE SIGNED
			TITLE	(TELEPHONE NO.	
			NAME TITLE	(SIGNATURE	DATE SIGNED

1.07 <u>CBI</u> [_]	Exemptions From Reporting If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.					
	"I hereby certify that, to the information which I have not i to EPA within the past 3 years period specified in the rule."	included in and is cu	this CAIR Reporting Fo	orm has been submitted		
/	VA					
	NAME		SIGNATURE	DATE SIGNED		
	TITLE		TELEPHONE NO.	DATE OF PREVIOUS SUBMISSION		
<u>CBI</u>	"My company has taken measures and it will continue to take t been, reasonably ascertainable using legitimate means (other a judicial or quasi-judicial p information is not publicly avould cause substantial harm to	hese measure by other pathan discoveroceeding) ailable els	res; the information is persons (other than govery based on a showing without my company's of sewhere; and disclosure	e not, and has not vernment bodies) by s of special need in consent; the e of the information		
•	NAME		SIGNATURE	DATE SIGNED		
	TITLE		TELEPHONE NO.			
	Mark (X) this box if you attach	a continua	tion sheet.			

CORPORATE DATA Facility Identification			
ddress [<u>「]</u>] <u>「]</u>] <u>「]</u>]	IDICIKIHISISIZ IDILIMIZIZIZIZ	正	_'_' []]
<u> </u>	IAILIEI_I_I_I]	_'_' II
	[<u>c]</u>]	A] [9]4]0]8]9][3]	<u>5101</u> 1
iployer ID Number imary Standard Industrial her SIC Code	Classification (SIC)	[0]0]-[9][]2]-[5]5 C.A.A.[0]0]9][]2]5]5 U.K[]]]]]] Code[3]7]	1 <u>3</u> 1 <u>3</u> 1 <u>3</u> 1 <u>3</u>
ne [<u>[]][][][]</u> ress [<u>[]]]]][]</u> [지기로 - - - - - - - - -	- W A Y _ _ _ _ _ _ _ _ _]
& Bradstreet Number	[<u>ट]</u>] State		<u></u> 교1王
	[S]W]N]Y]Y In & Bradstreet Number A ID Number ployer ID Number imary Standard Industrial ther SIC Code ther SIC Code pany Headquarters Identifie [S]W]N]V]Y]U] [S]W]N]V]Y]U] & Bradstreet Number	S W N Y Y A L E E E E E E E E E	Street State St

1.11	Parent Company Identification
<u>CBI</u> []	Name [UOICIKHEED] CIOICIRIOIRIA TIDIOIN] TIDIO Address [4] SIOIO PIRIRIVI GIRIANIA BICIUID TIDIO TID
	Dun & Bradstreet Number
1.12	Technical Contact
<u>CBI</u>	Name [B]A R B A R A
	[6]U N N Y V A L E _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
	[<u>C]A] [9]H] [] [3] [5] [0] [4] State</u>
	Telephone Number
1.13	This reporting year is from $[\overline{O}] \overline{1}] [\overline{8}] \overline{2}]$ to $[\overline{1}] \overline{2}] [\overline{8}] \overline{8} $
	Mark (X) this box if you attach a continuation sheet.

1.14	Facility Acquired If you purchased this facility during the reporting year, provide the following information about the seller: $\bigwedge A$
<u>CBI</u>	Name of Seller [_]_]_]_]_]_]_]_]_]_]_]_]_]_]
[_]	Mailing Address [_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]]]]]]]]]
	(_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
	[_]_] [_]]]][_]]]]] State
	Employer ID Number
	Date of Sale
	Contact Person [_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
	Telephone Number
1.15	Facility Sold If you sold this facility during the reporting year, provide the following information about the buyer:
CBI	Name of Buyer []]]]]]]]]]]]]]]]]]
[_]	Mailing Address [_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
	[_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
	[_]_] [_]_]_]_][_]_]_]_] State
	Employer ID Number
	Date of Purchase
	Contact Person [_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]]]]
	Telephone Number
[_] !	Tark (X) this box if you attach a continuation sheet.

Mark (X) this box if you attach a continuation sheet.

1.17 <u>CBI</u>	Mixture If the listed subsor a component of a mixture, chemical. (If the mixture coeach component chemical for a	ion for eac	on for each component	
[<u>]</u>]	Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)	
T	oluene diisocyanate	Emerson & Coming, Inc.	45	
le M	e-diisocyanate-based prepolymer	Emerson & Coming, Inc. Emerson & Coming, Inc.	,, <u></u>	5 <u>= UK</u>
			Total	100%
	- -			
			ŧ	

2.04	State the quantity of the listed substance that your facility manufactor processed during the 3 corporate fiscal years preceding the report descending order.	ured, import	ed
CBI			
[_]	Year ending		7 ar
	Quantity manufactured	NA	kį
	Quantity imported	NA	, kį
	Quantity processed	0,99	, kį
	Year ending	[<u>/</u>] <u>2</u>] [<u>8</u>] Mo. <u>Y</u> e	<u>G</u> ar
	Quantity manufactured	NA	kg
	Quantity imported	NA	k
	Quantity processed	0.99	kε
	Year ending	[<u>]]2</u>] [<u>§]</u> Mo. <u>Ye</u> a	
	Quantity manufactured	NA	kg
	Quantity imported	NA	kg
	Quantity processed	0.99	kg
(2.05) CBI	Specify the manner in which you manufactured the listed substance. Ci appropriate process types.	rcle all	
[_]	MA		
· ,	Continuous process	• • • • • • • • • • • •	. 1
	Semicontinuous process	• • • • • • • • • • • • •	. 2
	Batch process		.(3
[_]	Mark (X) this box if you attach a continuation sheet.		

· Z · UO	Specify the mapper in	which was amazara	All There is a second	
CBI	appropriate process t	ypes.	the listed substance.	Circle all
[_]	Continuous process .			
	-			
,	Batch process			
	- Daten process			
(2.07) (<u>CBI</u>	State your facility's substance. (If you a question.)	name-plate capacity fre a batch manufacture	or manufacturing or per or batch processor,	rocessing the listed do not answer this
[_]	Manufacturing capacity	y	•••••	NA kg/yı
	Processing capacity	• • • • • • • • • • • • • • • • • • • •		
			_	
	If you intend to incremanufactured, imported	i, or processed at anv	time after your curred upon the reporting	ent corporate fiscal
<u>CBI</u>	volume.	crease or decrease bas	to apon the reporting	year a production
<u>CBI</u>	volume.	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
	volume. Amount of increase	Manufacturing	Importing	Processing
	volume.	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)
	Amount of increase	Manufacturing Quantity (kg) \/A	Importing Quantity (kg) NA	Processing Quantity (kg)

2.09	listed substand substance during	e, specify the number of days you manufactured the reporting year. Also specify the average stype was operated. (If only one or two opera	or processed number of h	the listed
<u>CBI</u>			Days/Year	Average Hours/Day
	Process Type #1	(The process type involving the largest quantity of the listed substance.)		
		Manufactured	NA	NA
		Processed	12,5	
	Process Type #2	(The process type involving the 2nd largest quantity of the listed substance.)		
		Manufactured	NA	NA
		Processed	<u>NA</u>	NA
	Process Type #3	(The process type involving the 3rd largest quantity of the listed substance.)		
		Manufactured	NA	_NA
		Processed	NA	MA
2.10 <u>CBI</u> [_]	substance that	um daily inventory and average monthly inventory was stored on-site during the reporting year in sponse not required for TDI	of the lis the form of	ted a bulk
	Maximum daily in	nventory		kg
	Average monthly	inventory		kg

[_]	Mark (X) this bo	ox if you attach a continuation sheet.		

 '	CAS No.	Chemical Name	Byproduct, Coproduct or Impurity ¹	Concentration (%) (specify ± % precision)	Source of By- products, Co- products, or _Impurities_
	UK	UK	_UK	UK	UK

	Mark	(X)	this	pox	if	you	attach	а	${\tt continuation}$	sheet
--	------	-----	------	-----	----	-----	--------	---	----------------------	-------

a. Product Types ¹	b. % of Quantity Manufactured, Imported, or Processed		c. % of Quantity Used Captively On-Site	d. Type of End-Users
B	100%	_	i 00°70	1+
·		-		
		-		
Use the following code A = Solvent B = Synthetic reactant C = Catalyst/Initiator Sensitizer D = Inhibitor/Stabiliz Antioxidant E = Analytical reagent F = Chelator/Coagulant G = Cleanser/Detergent H = Lubricant/Friction agent I = Surfactant/Emulsif J = Flame retardant K = Coating/Binder/Adh	: c/Accelerator/ cer/Scavenger/ c/Sequestrant c/Degreaser a modifier/Antiwear cier desive and additives	L = M = N = O = O = O = O = O = O = O = O = O	Moldable/Castable Plasticizer Dye/Pigment/Color Photographic/Repand additives Electrodeposition Fuel and fuel add Explosive chemical Fragrance/Flavor Pollution control Functional fluids Metal alloy and a Rheological moditother (specify)	als and additives chemicals chemicals and additives additives
² Use the following code I = Industrial	25 5			

(2.13) (BI) []	Expected Product Types Identify all product types which you expect to manufacture import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)							
	a.	b.		c.	d.			
	Product Types ¹	% of Quantity Manufactured, Imported, or Processed	Used C	uantity aptively -Site	Type of End-Users ²			
	B	100%		00%	<u> </u>			
	<pre>"Use the following code A = Solvent B = Synthetic reactant C = Catalyst/Initiator Sensitizer D = Inhibitor/Stabiliz Antioxidant E = Analytical reagent F = Chelator/Coagulant G = Cleanser/Detergent H = Lubricant/Friction</pre>	c/Accelerator/ cer/Scavenger/ c/Sequestrant c/Degreaser	L = Moldab M = Plasti N = Dye/Pi O = Photog and ad P = Electr Q = Fuel a R = Explos S = Fragra	cizer gment/Colo raphic/Rep ditives odepositio nd fuel ad ive chemic nce/Flavor	als and additives chemicals			
	agent I = Surfactant/Emulsif J = Flame retardant K = Coating/Binder/Adh	ier	<pre>U = Functi V = Metal W = Rheolo</pre>	onal fluid alloy and a gical modi	s and additives additives			
	² Use the following code							
	<pre>I = Industrial CM = Commercial</pre>				nment/Military			
	Mark (X) this box if yo	ou attach a continua	tion sheet.					

a.	b.	c. Average % Composition of	d.
Product Type ¹	Final Product's Physical Form ²	Listed Substance in Final Product	Type of End-Users
NA		<u>~~A</u>	
	codes to designate pro	oduct types:	-
A = Solvent B = Synthetic react C = Catalyst/Initia Sensitizer D = Inhibitor/Stabi	ator/Accelerator/	L = Moldable/Castable M = Plasticizer N = Dye/Pigment/Color O = Photographic/Repr and additives	cant/Ink and addi cographic chemica
	ant/Sequestrant		ditives als and additives chemicals L chemicals
agent I = Surfactant/Emul J = Flame retardant K = Coating/Binder/	:	<pre>U = Functional fluids V = Metal alloy and a W = Rheological modifies X = Other (specify)</pre>	additives
		final product's physic	cal form:
A = Gas B = Liquid C = Aqueous solutio D = Paste E = Slurry	F3 = Gra on $F4 = Oth$ $G = Gel$	er solid	
F1 = Powder	odes to designate the	type of end-users:	
	CS = Con H = Oth	er (specify)	

	uck	• • • • • • • • • • • • • • • • • • •	
	ilcar		
	rge, Vessel		
P:	peline	• • • • • • • • • • • • • • • • • • • •	• • • •
P:	ane	• • • • • • • • • • • • • • • • • • •	
01	her (specify)	• • • • • • • • • • • • • • • • • • • •	• • • •
01	stomer Use Estimate the quantity of the listed substance prepared by your customers during the reporting year for end use listed (i-iv).	e used by your cu use under each ca	stome
	tegory of End Use		
i.	Industrial Products		
	Chemical or mixture	<i>N</i> A	kg
	Article	NA	kg
ii	. <u>Commercial Products</u>		
	Chemical or mixture	NA	kg
	Article	NA	kg
ii	i. Consumer Products		
	Chemical or mixture	NA	kg
	Article	M	kg
iv	• Other		kg
iv	Other Distribution (excluding export)	M	
iv		4	
iv	Distribution (excluding export)	NA	kg kg
iv	Distribution (excluding export)	NA NA	kg

SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART	A GENERAL DATA		-
3.01 CBI	Specify the quantity purchased and the average price for each major source of supply listed. Product trade The average price is the market value of the product substance.	es are treated a	s purchases.
[_]	Source of Supply	Quantity (kg)	Average Pric (\$/kg)
	The listed substance was manufactured on-site.	NA	NA
	The listed substance was transferred from a different company site.	NA	NA
	The listed substance was purchased directly from a manufacturer or importer.	0,99	<u> 284</u>
	The listed substance was purchased from a distributor or repackager.	NA	NA
	The listed substance was purchased from a mixture producer.	NA	NA
3.02) CB1 [_]	Circle all applicable modes of transportation used to your facility. Truck	•••••••••••••••••••••••••••••••••••••••	
	Other (specify)	••••••••••••	••••••
[_]	Mark (X) this box if you attach a continuation sheet.		

~ <u>~</u>	
3.03 a.	Circle all applicable containers used to transport the listed substance to your facility.
[_]	Bags
	Boxes
	Free standing tank cylinders
	Tank rail cars
	Hopper cars
	Tank trucks
	Hopper trucks 7
	Drums 8
	Pipeline
	Other (specify) Metal containers
ь.	If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.
	Tank cylinders MA mmHg
	Tank rail cars
	Tank trucks MA mmHg

 $[\]$ Mark (X) this box if you attach a continuation sheet.

Trade Name	Supplier or Manufacturer	Average % Composition by Weight (specify ± % precision)	Amoun Process (kg/yr
Eccofoam FPH	Emerson & Cum	ing 45 ± UK	0.9

 $[\]$ Mark (X) this box if you attach a continuation sheet.

State the quantity of the reporting year in the for the percent composition,	by weight, of the listed sub	% Composition by Weight of Listed Sub-
	Quantity Used (kg/yr)	stance in Raw Material (specify <u>+</u> % precision
Class I chemical	0.99	45±UK
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Class II chemical		<i>NA</i>
Polymer	NA	NA
<u>-</u> '		

 $\alpha = 8$ 

SECTION	4	DHYCTCAI	/CHEMICAL	PROPERTIES
SECTION	44	LUISIUAL	/ UDENIUML	LUALEVITES

C	^n	^,	٠.,	ìT	nc	+ -	~,,	^ t		۸n	٠.
la	eπ	eı	ra -		$\mathbf{n}\mathbf{s}$	т	-111	CT	1	on	ς:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A	PHYSICAL	/CHEMICAL	DATA	SUMMARY
--------	----------	-----------	------	---------

1
Specify the percent purity for the three major technical grade(s) of the listed
substance as it is manufactured, imported, or processed. Measure the purity of the
substance in the final product form for manufacturing activities, at the time you
import the substance, or at the point you begin to process the substance.

	Manufacture	Import	Process
Technical grade #1	NA % purity	NA % purity	UK % purity
Technical grade #2	NA_% purity	NA% purity	UK % purity
Technical grade #3	NA_% purity	NA_% purity	<u>UK</u> % purity

¹Major = Greatest quantity of listed substance manufactured, imported or processed.

4.02	Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.
	Yes
	No 2
	Indicate whether the MSDS was developed by your company or by a different source.
	Your company
	Another source $(2)$

Mark (X) this box if you attach a continuation sheet.

4.03)	Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.
	Yes 1
	No
$\overline{}$	

For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

		Phy:	sical State		
Activity	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	3	4	5
Store	1	2	3	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

[_] Mark (X) this box if you attach a continuation sheet.

Physical State Dust		Manufacture					
Dust			Import	Process	Store	Dispose	Transpo
	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Powder	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Fiber	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Aerosol	<1 micron						
	1 to <5 microns						
	5 to <10 microns						

## SECTION 5 ENVIRONMENTAL FATE

DADT /	שידע א	CONCTANTS	ΔND	TRANSFORMATION	PRODUCTS
PARI A	A KAIL	CUNDIMIN	AND	INMINOCURINITUM	LKODOCIO

Direct photolysis  b. Oxidation constant  For 102 (singlet of  For R02 (peroxy range)  c. Five-day biochemical  d. Biotransformation  For bacterial trans  Specify culture  e. Hydrolysis rate constant	oxygen), k _{ox}	UK	1/hr	_UK	la UK UK UK	1/N 1/N
<ul> <li>b. Oxidation constant</li> <li>For ¹O₂ (singlet of For RO₂ (peroxy radius)</li> <li>c. Five-day biochemical</li> <li>d. Biotransformation</li> <li>For bacterial transformation</li> <li>Specify culture</li> <li>e. Hydrolysis rate constant</li> </ul>	ts at 25°C:  oxygen), k _{ox}				UK UK	1/1
For ¹ 0 ₂ (singlet of For RO ₂ (peroxy rate)  c. Five-day biochemic of Biotransformation  For bacterial transformation of Specify culture  e. Hydrolysis rate contacts	oxygen), k _{ox}				UK UK	1/
For RO ₂ (peroxy race.  c. Five-day biochemical description for bacterial transformation specify culture  e. Hydrolysis rate contacts.	adical), k _{ox}				UK UK	1/
<ul> <li>c. Five-day biochemic</li> <li>d. Biotransformation</li> <li>For bacterial transpecify culture</li> <li>e. Hydrolysis rate con</li> </ul>	cal oxygen demand, $BOD_5$ rate constant: insformation in water, $k_b$				UK	
<ul><li>d. Biotransformation</li><li>For bacterial transformation</li><li>Specify culture</li><li>e. Hydrolysis rate content</li></ul>	rate constant: nsformation in water, k _b					mg
For bacterial transpectify culture e. Hydrolysis rate co	nsformation in water, k _b				UK	
Specify culture e. Hydrolysis rate co	• • • • • • • • • • • • • • • • • • • •				IJK	
e. Hydrolysis rate co						1/
	angtanta.				NA	
For base-promoted	Distants:					
	process, k _B		<u> </u>		UK	1/
For acid-promoted	process, k _A				UK	1/
For neutral proces	ss, k _n				UK	1/
f. Chemical reduction	n rate (specify conditions)	****			<u>uk</u>	
g. Other (such as spo	ontaneous degradation)				UK	

 $[\ \ ]$  Mark (X) this box if you attach a continuation sheet.

	Media		Half-life (spec	ify units	<u>:)</u>
	Groundwater	_UK			
	Atmosphere	UK			
	Surface water	UK			
	Soil	UK			
b.	Identify the listed su life greater than 24 h	ubstance's known trai		s that h	ave a half-
	CAS No.	Name	Half-life (specify units)		Media
	UK	UK	<i>UK</i>	in	
				in	
					-
	-				
O3) Spe	cify the octanol-water	partition coefficien	ıt, K _{ow}	UK	at 25°
	hod of calculation or d				
)4) Spe	cify the soil-water par	tition coefficient,	K,	UK	at 25°0
	l type			NA	
		-Water partition			
Spe	cify the organic carbon-	-water partition			at 2590
, .	cify the organic carbon- fficient, K _{oc}		•••••	UK	at 25 (

Bioconcentration Factor	<u>Species</u>	<u>Test</u> ¹
<u>UK</u>	UK	^
¹ Use the following codes to de	signate the type of test.	
F = Flowthrough S = Static	signate the type of test.	
•		

6.04 CBI	For each market listed below, state the listed substance sold or transferr						
[_]	Response not re	r					
	Market	Quantity Sold or Transferred (kg/yr)	Total Sales Value (\$/yr)				
	Retail` sales		4.04.00				
	Distribution Wholesalers						
	Distribution Retailers		-				
	Intra-company transfer						
	Repackagers						
	Mixture producers		***				
	Article producers						
	Other chemical manufacturers or processors		<del></del>				
	Exporters						
	Other (specify)						
6.05 <u>CBI</u>	Substitutes List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.						
[_]	Substitute		Cost (\$/kg)				
	UK		$\mathcal{N}A$				
	No viable subst	hitute available	2				
[_]	Mark (X) this box if you attach a cont	inuation sheet.					

#### SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

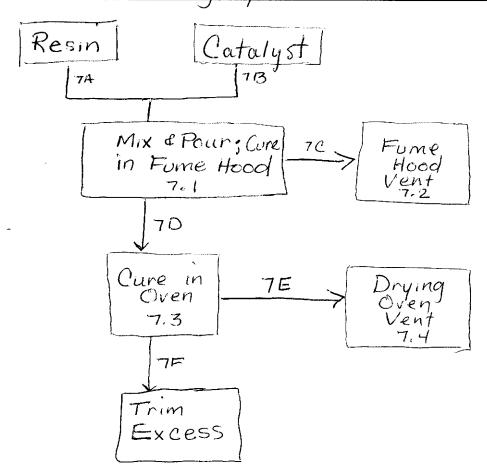
### General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

#### PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

[] Process type ..... Foaming Operation



[ ] Mark (X) this box if you attach a continuation sheet.

In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

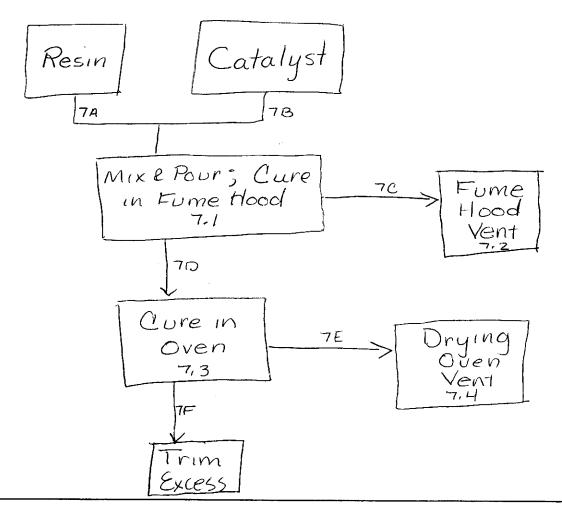
[] Process type ..... Foaming Operation

(Possible)

TDI Emissions

7.2

7.4



[ ] Mark (X) this box if you attach a continuation sheet.

] Process t	ype <u> </u>	ning Operat	701	Managery,
Unit Operation ID Number	Equipment <u>Type</u>	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composit
7.1	Fume Hood Drying Oven	Ambient	<u>Ambier</u> t <u>Ambient</u>	<u>~4</u>
7.3	Drying Oven	65.6	<u>Ambent</u>	<u></u>
		<del></del>	g a gui ca cultura.	-
		<del></del>		
	,			

, —	_	Tanina in Anna					
[_]	Process type <u>Foaming Operation</u>						
	Process Stream ID Code	Process Stream Description	Physical State ¹	Stream Flow (kg/yr)			
	7A	Base rosin	OL	0.99			
	7B	Catalyst	<u> </u>	a.78			
	_7C	Emission to func hood vent	t <u>GU</u>	UK			
	70	Polyure thane foam	GU	UK			
	_7E	Emission to oven vent	GU	UK			
	<u>7F</u>	Excess polyurethan foum	50	UK			
	Use the following codes to designate the physical state for each process stream:  GC = Gas (condensible at ambient temperature and pressure)  GU = Gas (uncondensible at ambient temperature and pressure)  SO = Solid  SY = Sludge or slurry  AL = Aqueous liquid  OL = Organic liquid  IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)						

a.	b. <u>Foamir</u>	ng Operation	d.	
Process Stream ID Code	Known Compounds ¹	Concen- trations ^{2,3} (% or ppm)	Other Expected Compounds	e. Estimated Concentratio (% or ppm)
<u>7A</u>	TDI	45°/0(W)	NA	N
	TDI-based prepolyi	ue <u>r 55%(</u> W)_	MA	NA
78	Catalyst	<u>UK</u>	UK	UK
70,7F	Polyuvethane Faan	100%	NA	NA
70,7E	UK	UK	υK	UK
continued be	.ow			

### 7.06 (continued)

¹For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number		Component Additive P	s of ackage			Concentrations (% or ppm)
1		NA				NA
	<del></del>					
2	_					
						`
		**				
3						
					<del></del>	
4						
5						
						<u> </u>
² Use the following	codes to des	signate how	the conce	ntration	was (	letermined:
A = Analytical re E = Engineering j	sult					
Use the following	codes to des	ignate how	the conce	ntration	was r	easured:
V = Volume W = Weight						

# SECTION 8 RESIDUAL TREATMENT GENERATION, CHARACTERIZATION, TRANSPORTATION, AND MANAGEMENT

#### General Instructions:

For questions 8.04-8.06, provide a separate response for each residual treatment block flow diagram provided in question 8.01, 8.02 or 8.03. Identify the process type from which the information is extracted.

For questions 8.05-8.33, the Stream Identification Codes are those process streams listed in either the Section 7 or Section 8 block flow diagrams which contain residuals for each applicable waste management method.

For questions 8.07-8.33, if residuals are combined before they are handled, list those Stream Identification Codes on the same line.

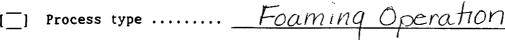
Questions 8.09-8.33 refer to the waste management activities involving the residuals identified in either the Section 7 or Section 8 block flow diagrams. Not all Stream Identification Codes used in the sample answers (e.g., for the incinerator questions) have corresponding process streams identified in the block flow diagram(s). These Stream Identification codes are for illustrative purposes only.

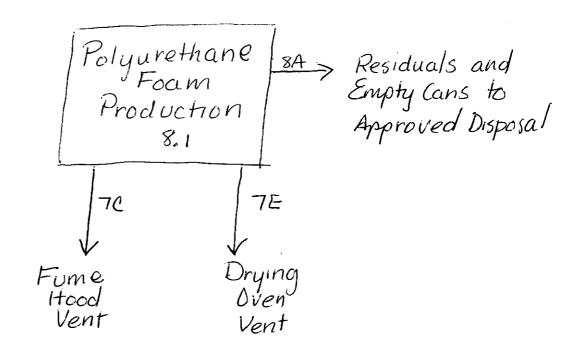
For questions 8.11-8.33, if you have provided the information requested on one of the EPA Office of Solid Waste surveys listed below within the three years prior to your reporting year, you may submit a copy or reasonable facsimile in lieu of answering those questions which the survey addresses. The applicable surveys are: (1) Hazardous Waste Treatment, Storage, Disposal, and Recycling Survey; (2) Hazardous Waste Generator Survey; or (3) Subtitle D Industrial Facility Mail Survey.

|--|--|

## PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

	In accordance with which describes	ith the instru the treatment	ctions, process	provide a used for	residual residuals	treatment b	olock flow I in quest:	diagram ion 7.01.
CBI					f			





[_] Mark (X) this box if you attach a continuation sheet.

# · PART B RESIDUAL GENERATION AND CHARACTERIZATION

[_]		type		aming of			
	stream ID Code	b. Type of Hazardous Waste	Physical State of Residual ²	d. Known Compounds ³	Concentra- tions (% or ppm) 4 ,5 ,6	f. Other Expected Compounds	g. Estimated Concen- trations (% or ppm)
	<u>8A</u>	R,T	OL_	TDI	45%	NA	NA
		·	<u> </u>	TDI-based prepa	lynur 5590	NA	NA
	7C,7E	R,T	GU	TDI	UK	<u>UK</u>	UK
					· ·		
 8.05	continue	d below					

**B.05 (continued)

**Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic

²Use the following codes to designate the physical state of the residual:

GC = Gas (condensible at ambient temperature and pressure)
GU = Gas (uncondensible at ambient temperature and pressure)

SO = Solid

SY = Sludge or slurry AL = Aqueous liquid OL = Organic liquid

H = Acutely hazardous

IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

### 8.05 continued below

[ ] Mark (X) this box if you attach a continuation sheet.

8.05 (continued
-----------------

³For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations(% or ppm)
1	NA	NA-
2		·
3		
4		
5		
411		
A = Analytical result E = Engineering judgement	designate how the concentrati	on was determined:
8.05 continued below		
[_] Mark (X) this box if you at	tach a continuation sheet.	

8.05 (continued)	8.05	(continued)
------------------	------	-------------

 $^5\mbox{Use}$  the following codes to designate how the concentration was measured:

V = Volume

W = Weight

 6  Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

Code		Method	Detection Limit $(\pm \text{ ug/l})$
1	NA		NA
2			
3			
4			
5			
6			

[_] Mark (X) this box if you attach a continuation sheet.

(8.06)	diagram process	erize each p (s). If a re type, photo (Refer to the	esidual trea copy this qu	atment block uestion and c	flow diag omplete i	ram is pro t separate	vided for mo ly for each	re than one
<u>CBI</u>	Process	type	<u> </u>	iming C	perat	, 7011		
	a.	b.	c.	d.	•		f.	g.
	Stream ID Code	Waste Description Code ¹	Management Method Code ²	Residual Quantities (kg/yr)	of Resi	gement dual (%) Off-Site	Costs for Off-Site Management (per kg)	Changes in Management Methods
	<u>84</u>	A08, A09		UK	0	100	UK	MA
	7C,7E	B91	 	  UK				
	<u> </u>							
					<del></del>			
		·						
		codes provi						
[_]	Mark (X)	this box if	you attach	a continuat	ion sheet	•		

## WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

# WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA F, K, P, OR U WASTE CODE

A01	Spent	solvent	(F001-F005.	K086)
-----	-------	---------	-------------	-------

A02 Other organic liquid (F001-F005, K086)

A03 Still bottom (F001-F005, K086)

A04 Other organic sludge (F001-F005, K086)

A05 Wastewater or aqueous mixture

A06 Contaminated soil or cleanup residue

A07 Other F or K waste, exactly as described*
A08 Concentrated off-spec or discarded product

A09 Empty containers

""Exactly as described" means that the waste matches the description of the RCRA waste code

A10 Incinerator ash

A11 Solidified treatment residue

A12 Other treatment residue (specify in "Facility Notes")

A13 Other untreated waste (specify in "Facility Notes")

INORGANIC LIQUIDS—Waste that is primarily
inorganic and highly fluid (e.g., aqueous), with
'ow suspended inorganic solids and low organic
content.

- 801 Aqueous waste with low solvents
- B02 Aqueous waste with low other toxic organics
- 803 Spent acid with metals
- 804 Spent acid without metals
- 805 Acidic aqueous waste
- 806 Caustic solution with metals but no cyanides
- B07 Caustic solution with metals and cyanides
- 808 Caustic solution with cyanides but no metals
- 809 Spent caustic
- 810 Caustic aqueous waste
- B11 Aqueous waste with reactive sulfides
- B12 Aqueous waste with other reactives (e.g., explosives)
- B13 Other aqueous waste with high dissolved solids
- B14 Other aqueous waste with low dissolved solids
- B15 Scrubber water
- 816 Leachate
- B17 Waste liquid mercury
- B18 Other inorganic liquid (specify in "Facility Notes")

# INORGANIC SLUDGES—Waste that is primarily inorganic, with moderate-to-high water content and low organic content; pumpable.

- B19 Lime sludge without metals
- B20 Lime sludge with metals/metal hydroxide sludge
- B21 Wastewater treatment sludge with toxic organics
- B22 Other wastewater treatment sludge
- B23 Untreated plating sludge without cyanides
- B24 Untreated plating sludge with cyanides
- B25 Other sludge with cyanides
- B26 Sludge with reactive sulfides
- B27 Sludge with other reactives
- 828 Degreasing sludge with metal scale or filings
- B29 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
- B30 Sediment or lagoon dragout contaminated with organics
- B31 Sediment or lagoon dragout contaminated with inorganics only

- B32 Drilling mud
- B33 Asbestos siurry or sludge
- B34 Chloride or other brine studge
  B35 Other inorganic studge (specify)
- 835 Other inorganic sludge (specify in "Facility Notes")

# INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not ournable.

- 836 Soil contaminated with organics
- B37 Soil contaminated with inorganics only
  B38 Ash, stag, or other residue from increase
- 338 Ash, siag, or other residue from incineration of wastes
- B39 Other "dry" ash, siag, or thermal residue
- B40 "Dry" lime or metal hydroxide solids chemically "fixed"
- B41 "Dry" time or metal hydroxide solids not "fixed"
- B42 Metal scale, filings, or scrap
- B43 Empty or crushed metal drums or containers
- B44 Battenes or battery parts, casings, cores
  B45 Spent solid filters or adsorbedts
- B45 Spent solid filters or adsorbents
   B46 Asbestos solids and debris
- 847 Metai-cyanide salts/chemicals
- 848 Reactive cyanide salts/chemicals
- B49 Reactive sulfide saits/chemicals
- B50 Other reactive salts/chemicals
- B51 Other metal salts/chemicals
- B52 Other waste inorganic chemicals
- B53 Lab packs of old chemicals only
- B54 Lab packs of debns only
- B55 Mixed lab packs
- B56 Other inorganic solids (specify in "Facility Notes")

# INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

857 Inorganic gases

# ORGANIC LIQUIDS—Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content

- B58 Concentrated solvent-water solution B59 Halogenated (e.g., cl.forinated) solvent
- B60 Nonhalogenated solvent

- B61 Halogenated/nonhalogenated solvent mixture
- B62 Oil-water emulsion or mixture
- B63 Waste oil
- B64 Concentrated aqueous solution of other organics
- B65 Concentrated phenolics
- B66 Organic paint, ink, lacquer, or varnish
  B67 Adhesives or exposures
- B67 Adhesives or expoxies
  B68 Paint thinner or petroleum distillates
- 870 Other organic liquid (specify in "Facility

# ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids content and water content; pumpable.

- 871 Still bottoms of halogenated (e.g., chlori-
- nated) solvents or other organic liquids
  Still bottoms of nonhalogenated
  solvents or other organic liquids
- B73 Oily studge
- 874 Organic paint or ink sludge
- B75 Reactive or polymerizable organics
- 876 Resins, tars, or tarry sludge
- 878 Sewage or other untreated to
- Sewage or other untreated biological studge
- B79 Other organic sludge (specify in "Facility Notes")

# ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable.

- B80 Halogenated pesticide solid
- B81 Nonhalogenated pesticide solid
- 882 Solid resins or polymenzed organics
- 883 Spent carbon
- B84 Reactive organic solid
- B85 Empty fiber or plastic containers
- B86 Lab packs of old chemicals only
- 887 Lab packs of debris only
- B88 Mixed lab packs
- 389 Other halogenated organic solid
- B90 Other nonhalogenated organic solid

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at atmospheric pressure.

891 Organic gases

# EXHIBIT 8-2. (Refers to question 8.06(c))

### MANAGEMENT METHODS

	MANAGEMENT	METH	ODS
M1 =	Discharge to publicly owned	Peco	very of solvents and liquid organics
	wastewater treatment works		rense
M2 ≠	Discharge to surface water under		Fractionation
	NPDES	2 SR	Batch still distillation
M3 =	Discharge to off-site, privately	3SR	Solvent extraction
	owned wastewater treatment works	4SR	Thin-film evaporation
.M4 =	Scrubber: a) caustic; b) water;	5SR	Filtration
	c) other	6SR	Phase separation
M5 =	Vent to: a) atmosphere; b) flare;	7 SR	Dessication
	c) other (specify)	8SR	Other solvent recovery
M6 =	Other (specify)		
		Reco	very of metals
TREAT	THENT AND RECYCLING	1MR	Activated carbon (for metals
			recovery)
	neration/thermal treatment	2MR	Electrodialysis (for metals
11	Liquid injection		recovery)
21	Rotary or rocking kiln	3MR	Electrolytic metal recovery
31	Rotary kiln with a liquid injection	4MR	Ion exchange (for metals recovery)
, -	unit	5MR	Reverse osmosis (for metals
4I	Two stage		recovery)
	Fixed hearth	6MR	Solvent extraction (for metals
6I	Multiple hearth		recovery)
	Fluidized bed	7MR	Ultrafiltration (for metals
	Infrared		recovery)
71 10T	Fume/vapor Pyrolytic destructor	8MR	Other metals recovery
111	Other incineration/thermal	11	
111	treatment		evater Treatment
	ried (metric	ALTE	r each wastewater treatment type
Range	e as fuel		listed below (1WT - 66WT) specify
	Cement kiln		a) tank; or b) surface impoundment
	Aggregate kiln		(i.e., 63WTa)
3RF	Asphalt kiln	Faur	lization
	Other kiln		Equalization
	Blast furnace		Equalization
	Sulfur recovery furnace	Cvan	ide oxidation
	Smelting, melting, or refining		Alkaline chlorination
	furnace		Ozone
	Coke oven		Electrochemical
	Other industrial furnace	5WT	Other cyanide oxidation
10RF	Industrial boiler	5	other cyanitae oxidation
11RF	Utility boiler	Gene	ral oxidation (including
12RF	Process heater	disi	nfection)
	Other reuse as fuel unit	6WT	Chlorination
		7 <b>VT</b>	
<b>Puel</b>	Blending	8WT	UV radiation
1FB	Fuel blending	9WT	
	ification	Chem	ical precipitation ¹
	Cement or cement/silicate processes	10WT	Lime
25	Pozzolanic processes	11WT	Sodium hydroxide
	Asphaltic processes	12VT	Soda ash
45	Thermoplastic techniques		Sulfide
	Organic polymer techniques	14VT	Other chemical precipitation
	Jacketing (macro-encapsulation)		-
7 <b>S</b>	Other solidification		nium reduction
			Sodium bisulfite
		16VT	Sulfur dioxide

60

### EXHIBIT 8-2. (continued)

#### MANAGEMENT METHODS

17WT Ferrous sulfate 18WT Other chromium reduction

Complexed metals treatment (other than chemical precipitation by pH adjustment)
19WT Complexed metals treatmen;

Emulsion breaking 20WT Thermal 21WT Chemical

22WT Other emulsion breaking

Adsorption 23WT Carbon adsorption 24WT Ion exchange 25WT Resin adsorption 26WT Other adsorption

Stripping 27WT Air stripping 28WT Steam stripping 29WT Other stripping

Evaporation
30WT Thermal
31WT Solar
32WT Vapor recompression
33WT Other evaporation

Filtration
34WT Diatomaceous earth
35WT Sand
36WT Multimedia
37WT Other filtration

Sludge dewatering

38WT Gravity thickening
39WT Vacuum filtration
40WT Pressure filtration (belt, plate
and frame, or leaf)
41WT Centrifuge

Air flotation 43WT Dissolved air flotation 44WT Partial aeration 45WT Air dispersion 46WT Other air flotation

42WT Other sludge dewatering

Oil skimming 47WT Gravity separation 48WT Coalescing plate separation 49WT Other oil skimming

Other liquid phase separation 50WT Decanting 51WT Other liquid phase separation

Biological treatment
52VT Activated sludge
53VT Fixed film-trickling filter
54VT Fixed film-rotating contactor
55VT Lagoon or basin, aerated
56VT Lagoon, facultative
57VT Anaerobic
58VT Other biological treatment

Other wastewater treatment
59WT Wet air oxidation
60WT Neutralization
61WT Nitrification
62WT Denitrification
63WT Flocculation and/or coagulation
64WT Settling (clarification)
65WT Reverse osmosis
66WT Other wastewater treatment

#### OTHER WASTE TREATMENT

1TR Other treatment 2TR Other recovery for reuse

#### ACCUMULATION

1A Containers 2A Tanks

### STORAGE

1ST Container (i.e., barrel, drum)
2ST Tank
3ST Waste pile
4ST Surface impoundment
5ST Other storage

### DISPOSAL

1D Landfill

2D Land treatment

3D Surface impoundment (to be closed as a landfill)

4D Underground injection well

Chemical precipitation is a treatment operation whereby the pH of a waste is adjusted to the range necessary for removal (precipitation) of contaminants. However, if the pH is adjusted solely to achieve a neutral pH, THE OPERATION SHOULD BE CONSIDERED NEUTRALIZATION (60WT).

8, 22 <u>CBI</u> [ ]	your process l	incinerators  plock or res  nod requ  Combo  Cha	cinerators that are using ck or residual treatment of required for 7 Combustion Chamber Temperature (°C)		o burn the r	esiduals ide • Reside In Com	Residence Time In Combustion Chamber (seconds)			
	Incinerator	Primary	Secondary	Primary	Secondary	Primary	Secondary			
	1									
	2									
	3									
			of Solid Wast copriate resp		been submit	ted in lieu	of response			
	Yes				• • • • • • • • • • •	• • • • • • • • • •				
	No			• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • •	2			
<u>CBI</u>	Incinerator 1			llution Device		Types Emission Avail	s Data			
	2									
	3			<del></del>		· · · · · · · · · · · · · · · · · · ·				
	Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.									
	Yes 1									
			•••••							
	¹ Use the follo		o designate							
	S = Scrubber E = Electrost O = Other (spe	atic precipi	tator	-	esis)					
[ <u>]</u> ]	Mark (X) this	box if you a	ttach a conti	inuation shee	et.					

## SECTION 9 WORKER EXPOSURE

G	en	er	al	In	st	ru	cf	۲i	on	9

Questions 9.03-9.25 apply only to those processes and workers involved in manufacturing or processing the listed substance. Do not include workers involved in residual waste treatment unless they are involved in this treatment process on a regular basis (i.e., exclude maintenance workers, construction workers, etc.).

[_]	Mark (X)	) this	box if	you	attach	а	continuation sheet.	

## PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

Data Element	Data are Ma Hourly Workers	intained for Salaried Workers	Year in Which Data Collection Began	Number of Years Record Are Maintain
Date of hire	X		1954	37
Age at hire		×	1954	37
Work history of individual before employment at your facility	NA	NA	NA	NA
Sex	$\times$	X	1954	37
Race			1954	37
Job titles		×	1954	37
Start date for each job title	X		1954	37
End date for each job title			1954	37
Work area industrial hygiene monitoring data	<u> </u>	_+	1957	37
Personal employee monitoring data		X	1957	37
Employee medical history		×	1954	37
Employee smoking history	<u> </u>		1954	37
Accident history	X	<u> </u>	1957	37
Retirement date	X	X	1954	37
Termination date		K	1954	37
Vital status of retirees	NA	NA	NA	NA
Cause of death data	$\mathcal{X}$	<u> </u>	1954	37

(	9		02	
1	`	-	-	

In accordance with the instructions, complete the following table for each activity in which you engage.

<u>CBI</u>

[_]

a.	b.	c.	d.	e.	
Activity	Process Category	Yearly Quantity (kg)	Total Workers	Total Worker-Hours	
Manufacture of the	Enclosed	NA	NA	NA_	
listed substance	Controlled Release	NA	NA	NA	
	0pen	NA	NA	NA	
On-site use as	Enclosed	NA	NA	NA	
reactant	Controlled Release	0.99	i	100	
	0pen	NA	NA	MA	
On-site use as nonreactant	Enclosed	MA	NA_	NA	
nonreactant	Controlled Release	NA	NA	NA	
	0pen	NA	<u>NA</u>	<u>NA</u>	
On-site preparation of products	Enclosed	NA	NA	NA	
or products	Controlled Release	NA	NA	<i>NA</i>	
-	0pen	NA	NA	NA	

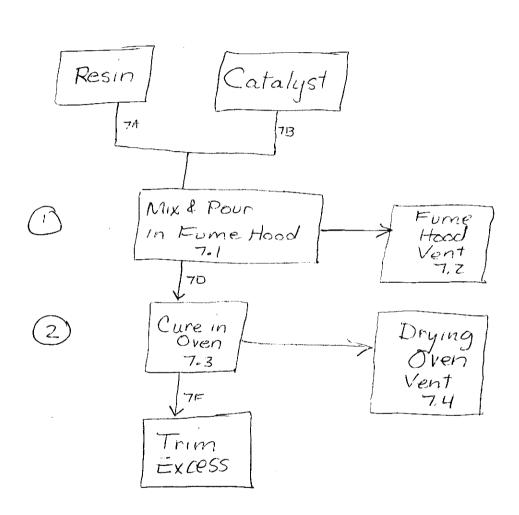
12.5 days/yr. × 8 hrs/day × 1 worker = 100 worker-hours

1	
Labor Category	Descriptive Job Title
A	Descriptive Job Title Assembler - hourly technician
В	J
C	
D	
E	
F	
G	
Н	
I	
J	

9.04	In accordance with the instructions, indicate associated work areas.	provide you	ır process	block	flow	diagram(s)	and
CBI			•				

Foaming Operation

Process type .....



 $[\ \ ]$  Mark (X) this box if you attach a continuation sheet.

<u>CBI</u>	.,	s question and complete it separately for each process type.
[_]	Process type	Foaming Operation
	Work Area ID	Description of Work Areas and Worker Activities
	1	Fume Hood (worker pours material into moid): unit core
	2	Fume Hood (worker pours material into moid); in hood Drying Oven Area (worker places toumed unit into di ing oven for Curing)
	3	ing over for Curing)
	4	
	5	
	6	
	7	
	8	
	9	
	10	

<u>I</u>	come in cont	category at yo tact with or l	our facility that	t encompasses e listed subst	fied in question workers who may p ance. Photocopy ork area.	ootentially
_]	Process type	· · · · · · · · · · · · · · · · · · ·	Foaming	Operat	1011	
	Work area		· · · · · · · · · · · · · · · · · · ·	······································		
	Labor Category	Number of Workers Exposed	Mode of Exposur (e.g., dire skin contac	ect Liste (t) Substan	of Length of Exposure	
	A		Inhalation/	Skin Oi	_/GUD	
		<del></del>				
	¹ Use the fol	lowing codes f exposure:	to designate the	physical stat	e of the listed s	substance at
	tempe	condensible a rature and pro	essure)	SY = Sludge AL = Aqueous		
	tempe: includ	uncondensible rature and pro des fumes, va	essure;	OL = Organic IL = Immisci (specif		
	SO = Solid			90% wat	er, 10% toluene)	
			to designate aver	age length of	exposure per day	<b>'</b> :
	A = 15 minut B = Greater	tes or less than 15 minut ng 1 hour	tes, but not	exceeding	than 2 hours, but g 4 hours	
	C = Greater	ig I nour than one hour ig 2 hours	, but not	exceeding	than 4 hours, but g 8 hours than 8 hours	not

<u>I</u>	come in con	category at yo tact with or b	able for each wour facility the exposed to the by for each pro	at encom he liste	passes worke d substance.	rs who may pot	contially
_]	Process type	e <u>1</u>	-caming	Oper	ration		
			••••••				
	Labor Category	Number of Workers Exposed	Mode of Expos (e.g., di skin cont	rect	Physical State of Listed Substance ¹	Average Length of Exposure Per Day ²	Number of Days per Year Exposed
	_4		Inhalahor	<u>1</u>	<u>GU</u>	D	12.5
				<del></del>			
	the point o	lowing codes of exposure:	to designate th				ostance at
	GU = Gas (temper	rature and pre uncondensible rature and pre des fumes, var	essure) at ambient essure;	AL = OL = IL =	Sludge or sl Aqueous liqu Organic liqu Immiscible l (specify pha	id id iquid ses, e.g.,	
;		lowing codes t	o designate av		90% water, 1 ngth of expo	•	
	exceedir C = Greater	tes or less than 15 minut ng 1 hour than one hour ng 2 hours		e: E = G: e:	xceeding 4 he	4 hours, but n ours	

9.07	- Weighted Average (	egory represented in question 9.06 (TWA) exposure levels and the 15-minestion and complete it separately for	nute peak exposure levels.					
<u>CBI</u>		•	•					
[_]	Process type Foaming Operation							
	Work area	-	I and Z					
	Labor Category	8-hour TWA Exposure Level (ppm, mg/m ³ , other-specify)	15-Minute Peak Exposure Level (ppm, mg/m³, other-specify)					
	A	UK	UK					
	-							

Sample/Test	Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples	Analyzed In-House (Y/N)	Number of Years Recor Maintained
Personal breathing zone	NA	NA	NA	NA	NA	NA
General work area (air)						
Wipe samples						
Adhesive patches						
Blood samples						
Urine samples						
Respiratory samples						
Allergy tests						
Other (specify)						
Other (specify)						
Other (specify)						
¹ Use the following contains A = Plant industrials B = Insurance carriect C = OSHA consultant D = Other (specify)	l hygienis er		takes the	monitoring	g samples:	

			Sampling and Analyt	rear hethodor	<u>ogy</u>
	NA				
10	If you conduct perso	nal and/or ambien	t air monitoring fo	r the listed s	substance,
<u> </u>	_	g intolmation for	each equipment type	e used. Averaging	
<u>_</u> ]	Equipment Type ¹	Detection Limit	Manufacturer	Time (hr)	Model Numbe
	VA		_NA		NA
_					
_					
	Use the following co A = Passive dosimete B = Detector tube C = Charcoal filtrat D = Other (specify)	r		ring equipmen	t types:
1	Use the following co	des to designate	ambient air monitor	ing equipment	types:
] ] ( ]	E = Stationary monit F = Stationary monit G = Stationary monit H = Mobile monitorin I = Other (specify)	ors located within ors located within ors located at pla	n work area n facility ant boundary		
A E	Jse the following cook A = ppm B = Fibers/cubic cent C = Micrograms/cubic	timeter (f/cc)	detection limit uni	ts:	

<u>BI</u> ]		Test Des	cription		( w	eeklv.	Frequ	ency, yearly,	etc.)
<b></b> ′	NA	-			NA			, jeurry	
						•			
					-				

9.12 Describe the engineering c to the listed substance. process type and work area CBI	ontrols that yo Photocopy this	u use to reduce o question and comp	r eliminate wo lete it separa	rker exposure tely for each
[_] Process type	. Foaming	Operation		
Work area			/	
Engineering Controls	Used (Y/N)	Year	Upgraded	Year
Ventilation:	(1/14)	Installed	(Y/N)	Upgraded
Local exhaust				
General dilution				
Other (specify)				
Vessel emission controls				
Mechanical loading or packaging equipment				
Other (specify)				
Fume Hood	Y	<u> </u>	A 1.4	A /A
The foaming articles 15 con	g process Iducted wi	and air c thin a fume	uring of t	he

9.12) CBI	Describe the engineering cont to the listed substance. Pho process type and work area.	rols that you	u use to reduce of question and comp	r eliminate won lete it separat	rker exposure ely for eac
[_]	Process type	Foan	ring Operat	าบท	
	Work area	• • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		
	Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
	Ventilation:				
	Local exhaust			****	
	General dilution				
	Other (specify)				
	Vessel emission controls				
	Mechanical loading or packaging equipment				***************************************
	Other (specify)				
	Oven is vented	Y	<u>UK</u>	<u></u>	NA
		,			

<u> </u>	the percentage reduction in exposure that resulted. Photocomplete it separately for each process type and work area.	ecopy this question and
_}}	Process type	NA
	Work area	NA
	Equipment or Process Modification	Reduction in Worker Exposure Per Year (%
	NA	NA

9.14	Describe the personal protective and safety equi in each work area in order to reduce or eliminat substance. Photocopy this question and complete and work area.	e their exposi	ure to the listed
<u>CBI</u>			
[_]	Process type Foaming Oper	ation	
	Work area		1,2
	<b>Equipment Types</b>	Wear or Use (Y/N)	
	Respirators	$\sim$	
	Safety goggles/glasses	N	
	Face shields		
	Coveralls	N	
	Bib aprons		
	Chemical-resistant gloves	<u> </u>	
	Other (specify)		
		NA	
		·	

[_] Mark (X) this box if you attach a continuation sheet.

CBI	_		process type.	VA		
[J	Work	Respirator	Average	Fit Tested	Type of	Frequency of
	<u>Area</u>	Type <i>NA</i>	Usage¹	<u>(Y/N)</u>	Fit Test ²	Fit Tests (per year)
		1011	<u></u>	<u>NA</u>	NA_	_ NA
	A = Daily B = Weekly C = Monthl D = Once a E = Other	y Vear	nate the type o	of fit test	::	
4	QL = Quali QT = Quant	tative				

9.19 CBI	Describe all of the work peliminate worker exposure authorized workers, mark a monitoring practices, provuestion and complete it s	to the listed sureas with warning vide worker train	ubstance (e.g. ng signs, insu ning programs	., restrict en ure worker den , etc.). Phon	ntrance only to tection and tocopy this
[_]	Process type <u>Fo</u>	aming Oper	ration		
	Work area	• • • • • • • • • • • • • • • • • • • •			
	The worker who was and to autennas	ogs this ma	terial is	trained in	general ying foam
	to autennas		J		J
9.20	Indicate (X) how often you leaks or spills of the lis separately for each proces	ted substance.	Photocopy thi	ask used to cl is question an	ean up routine d complete it
9.20	Indicate (X) how often you leaks or spills of the liss separately for each process.  Process type For	ted substance. s type and work	Photocopy thi	ask used to clis question an	lean up routine ad complete it
9.20	leaks or spills of the lis separately for each process  Process type For	ted substance. s type and work	Photocopy thi	is question an	More Than 4
9.20	leaks or spills of the lis separately for each process  Process type For	ted substance. s type and work  aming Opt v  Less Than	Photocopy this area.  Tahom  1-2 Times	/ Z  3-4 Times	More Than 4
9.20	leaks or spills of the lisseparately for each process  Process type For the lisseparately for each process.  Work area	ted substance. s type and work  aming Opt v  Less Than	Photocopy this area.  Tahom  1-2 Times	/ Z  3-4 Times	nd complete it
9.20	leaks or spills of the lisseparately for each process  Process type For the lisseparately for each process.  Work area	ted substance. s type and work  aming Opt v  Less Than	Photocopy this area.  Tahom  1-2 Times	/ Z  3-4 Times	More Than 4
9.20	leaks or spills of the lisseparately for each process  Process type For the lisseparately for each process.  Work area	ted substance. s type and work  aming Opt v  Less Than	Photocopy this area.  Tahom  1-2 Times	/ Z  3-4 Times	More Than 4
9.20	leaks or spills of the lisseparately for each process  Process type For the lisseparately for each process.  Work area	ted substance. s type and work  aming Opt v  Less Than	Photocopy this area.  Tahom  1-2 Times	/ Z  3-4 Times	More Than 4

105

 $[\ \ ]$  Mark (X) this box if you attach a continuation sheet.

9,21	Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance? Response not required for TDT	
	Routine exposure	
	Yes	1
	No	2
	Emergency exposure	
	Yes	3
	No	2
	If yes, where are copies of the plan maintained?	
	Routine exposure:	
	Emergency exposure:	_
9.22	Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.	
	Yes	1
	No	2
	If yes, where are copies of the plan maintained?	
	Has this plan been coordinated with state or local government response organizations Circle the appropriate response. MA	ş?
	Yes	1
	No	2
9.23	Who is responsible for monitoring worker safety at your facility? Circle the appropriate response. Response not required for TDI	
	Plant safety specialist	1
	Insurance carrier	2
	OSHA consultant	3
	Other (specify)	4
[_]	Mark (X) this box if you attach a continuation sheet.	_

### SECTION 10 ENVIRONMENTAL RELEASE

#### General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RO.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

10.01 CBI	Where is your facility located? Circle all appropriate responses.
[_]	Industrial area
	Urban area 2
	Residential area 3
	Agricultural area 4
	Rural area 5
	Adjacent to a park or a recreational area 6
	Within 1 mile of a navigable waterway 7
	Within 1 mile of a school, university, hospital, or nursing home facility 8
	Within 1 mile of a non-navigable waterway 9
	Other (specify)10

10.02	Specify the exact location of your is located) in terms of latitude (UTM) coordinates.	our facility (from cen e and longitude or Uni	tral point where versal Transvers	process unit e Mercader
	Latitude	••••••	<u>37 · 25</u>	N' 20
	Longitude	••••••	122 . 2	w, 00
	UTM coordinates Zon	ne <u>NA</u> , North	ing <u>NA</u> , Eas	sting <u>NA</u>
10.03	If you monitor meteorological co the following information.  Average annual precipitation	Response not	required for	or TDÎ
	Predominant wind direction			inches/yea 
10.04	Indicate the depth to groundwate  Depth to groundwater  Response not	·		meters
10.05 CBI	For each on-site activity listed listed substance to the environme Y, N, and NA.)	, indicate (Y/N/NA) alent. (Refer to the in	l routine releas	es of the definition o
[_]	On-Site Activity	Envi	ronmental Releas Water	e Land
	Manufacturing	NA		NA
	Importing	<u>NA</u>	NA	NA
	Processing	Y		<i>N</i>
	Otherwise used	<u>NA</u>	<i>NA</i>	NA
	Product or residual storage	$\mathcal{N}$	<i>N</i>	
	Disposal	<u> </u>	<i>N</i>	
	Transport	MA	<u>NA</u>	NA
		-		

]	Process type	rately for each process type.				
	Stream ID Code	Control Technology  NA	Percent Efficie			
			· · · · · · · · · · · · · · · · · · ·			

subs resignation resignation r	substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.							
	Process type Foaining Operation							
	Source Code	Description of Emission Point Source						
	<u>C</u>	Fume Hood Vent Emission						
7	E	Fume Heed Vent Emission  Even Vent Emission						
-								
	<del>,</del>							

Mark (X)

(10.10) CBI	Emission Characteristics Characterize the emissions for each Point Source ID Code identified in qual 10.09 by completing the following table.										
<u>()</u>	Point Source ID Code	Physical State	Average Emissions (kg/day)	Frequency ² (days/yr)	Duration ³ _(min/day)	Average Emission Factor ⁴	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)		
	<u>7C</u>		<u>UK</u>	12.5	240	UK	UK	UK	UK UK		
	70		_UK	12,5	240	UK	UK	<u> </u>	UK		
		- No									
	<del></del>										
						1					
								-			
		····				· · · · · · · · · · · · · · · · · · ·					
			<del></del>								
	1										
	Use the following codes to designate physical state at the point of release:  G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify)										
	² Frequency of emission at any level of emission										
	³ Duration of emission at any level of emission										
	⁴ Average	Emission F		ide estimated		) emission fa	uctor (kg of e	mission per k	g of		

ID Code	Stack Height(m)	Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m) ¹	Building Width(m) ²
7C	9.2	0,25	21	0.51	18.3	75.6
7D_	9.2	0.10	<u>u</u> K	UK	18.3	75.6
·					-	
						******
					-	
	-		·			
Height o	f attached	or adjacent	building			

[[]_] Mark (X) this box if you attach a continuation sheet.

(10.12) CBI	If the listed substance is emitted in particulate form, indicate the particle distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point sou											
[_]	Point source ID code	• • • • • • • • • • • • • • • • • • • •	••••••	NA								
	Size Range (microns)		Mass Fra	ction (% <u>+</u> % precision	1)							
	< 1		NA		<del>-/</del>							
	≥ 1 to < 10		NA									
	≥ 10 to < 30		NA									
	≥ 30 to < 50		NA									
	≥ 50 to < 100		_NA									
	≥ 100 to < 500		NA									
	≥ 500		_NA									
				Total = 100%								

 $[\ \ ]$  Mark (X) this box if you attach a continuation sheet.

PART	C	FUGITIVE	EMISSIONS
Inni	·	LOGITI	PHITOSTONS

			<del></del>											
(10.13) CBI	Equipment Leaks Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separatel for each process type.													
1-1	Process type NA													
*	Percentage of time per year	that the li	sted sub	stance is	exposed	to this p	rocess							
	NA		of Compo	nents in d Substan	Service b	y Weight cess Stre	am							
	Equipment Type	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%							
	Pump seals ¹				20 / 3/6	10-556	CHan 77%							
	Packed													
	Mechanical	<del></del>		***************************************	<del></del>									
	Double mechanical ²					<del></del>	<del></del>							
	Compressor seals ¹													
	Flanges	<del></del>			-		<del></del>							
	Valves													
	Gas ³													
	Liquid	***************************************												
	Pressure relief devices ⁴ (Gas or vapor only)													
	Sample connections													
	Gas			_										
	Liquid													
	Open-ended lines ⁵ (e.g., purge, vent)			-										
	Gas													
	Liquid													
	¹ List the number of pump and compressors	compressor	seals, r	ather tha	in the num	ber of pu	imps or							
10.13	continued on next page													

10.13	(continued)
10.13	(

- ²If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively
- 3 Conditions existing in the valve during normal operation
- ⁴Report all pressure relief devices in service, including those equipped with control devices
- ⁵Lines closed during normal operation that would be used during maintenance operations

(10.14) CBI	Pressure Relief Devices with Controls Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.												
t1	a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel	Control Device	d. Estimated Control Efficiency									
	Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)  The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions												
[ <u></u> ] N	Mark (X) this box if you at	tach a continuation	sheet.										

(10:15)	Equipment Leak Detection place, complete the procedures. Photocotype.	following table re	garding thos nd complete	se leak dete it separate	ection and reach	epair
<u>CBI</u>				٧		
[]	Process type	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • •			
	Equipment Type	Leak Detection  Concentration (ppm or mg/m³)  Measured at  Inches  from Source	Detection Device	of Leak Detection	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Equipment Type	Trom Source	Device	(per year)	detection)	initiated)
	Pump seals Packed Mechanical Double mechanical					
	Compressor seals Flanges					
	Valves					
	Gas				÷	
	Liquid					The state of the s
	Pressure relief devices (gas or vapor only)					
	Sample connections					
	Gas					
	Liquid					
	Open-ended lines					
	Gas	v				
	Liquid					
	¹ Use the following co POVA = Portable orga FPM = Fixed point mo O = Other (specify)	anic vapor analyzer onitoring	-			

	Release		ate arted	Time (am/pm)	Date Stopped	Time (am/pm)
	1		JA	NA	_NA	NA
	2					
	3		···		-	
	4					
	5		And the state of t			
10.24	Specify t			time of each r		Procinitatio
10.24	Specify t	Wind Speed	Wind	Humidity	Temperature	Precipitatio
10.24						Precipitatio (Y/N)
10.24	Specify t	Wind Speed	Wind	Humidity	Temperature	
10.24	Specify t  Release  1 2	Wind Speed	Wind	Humidity	Temperature	
10.24	Specify t  Release  1  2  3	Wind Speed	Wind	Humidity	Temperature	
10.24	Specify t  Release  1 2	Wind Speed	Wind	Humidity	Temperature	
10.24	Specify t  Release  1  2  3	Wind Speed	Wind	Humidity	Temperature	

[]]	Mark	(X)	this	box	if	you	attach	а	continuation	S	heet.				

EMERSON AND CUMING, INC. A GRACE CO. 77 DRAGON COURT, WOBURN, MA 01888 EMERGENCY/SAFETY INFORMATION: (617)935-4850 OR: (617)938-8630

ADDITIONAL MSDS: (617)828-3300

MSDS PREPARED BY: David Haas DATE PREPARED: 11/28/89 SUPERCEDES: 1/30/89

DOCUMENT #: 330003

PRODUCT NAME: ECCOFDAM FFH

General Chemical Description: Isocyanate Prepolymer

Maximum Exposure Limits

Percent (8 Hour Time-Weighted Average)

Components by Weight OSHA PEL ACGIR TLV

Toluene-diisocyanate-based 55% Not Established

prepolymer

Toluene diisocyanate(*) 45% 0.005 ppm 0.005 ppm

(CAS#: \$84-84-9)

See "Health Hazard Data".

All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SECTION 111-PHYSICAL DATA

(*) This material is regulated by the SARA Section 313 amendments to RCRA.

niling Point ("F): > 200 Spe

Boiling Point (~F): > 200 Vapor Pressure at 25°C: < 1 mm Hg Volatiles (% by weight): Negligible Appearance and Odor: Red liquid Specific Gravity (water=1): 1.10-1.15 Solubility in water: Reacts with water Vapor Density: Heavier than air

### ECCOFOAM FPH

SECTION IV-FIRE AND EXPLOSION HAZARD DATA-----

Flash Point (~F): > 270~F (Cleve)and Open Cup)

Flammable Limits: Not Established

Extinguishing Media: Carbon dioxide, dry chemical, foam.

Unusual Fire or Explosion Hazards: Toxic vapors may be evolved upon exposure to heat or open flame.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus.

SECTION V-REACTIVITY DATA----

Product Stability: Product is stable; hazardous polymerization will not occur.

Incompatibilities: Strong oxidizers, water, alcohols, powdered metals or metal oxides.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanates, traces of cyanides.

Conditions to avoid: Storage in open containers, exposure to heat and/or open flame, uncontrolled mixing with (or exposure to) incompatible substances (above)

· · PRINTED : 12/12/89

#### ECCOFOAM FPH

#### -----SECTION VI-SMILL OR LEAK MROCEDURES------

Note: Protective gloves, clothing, respiratory protection and chemical splash goggles must be worn during entire clean-up procedure.

For small spills: Turn on ventilation equipment to evacuate vapors from the area. Wipe up, or absorb with vermiculite or other absorbent material.

Collect waste in sealed containers.

Scrub area with scapy water and rinse. Prevents rinses from entering drains or other waterways.

Spilled material and water rinses should be disposed of as chemical waste in accordance with all current federal, state, and local regulations.

For large spills: Turn on ventilation equipment to evacuate vapors from the area. Non-essential personnel should be evacuated from immediate area.

Dike area to contain spilled material and to prevent runoff into drains, sewers, and other waterways.

Shovel or pump to drum or salvage tank.

Absorb residual material with sand, vermiculite, or other absorbent material.

Scrape or shovel absorbed waste and absorbent into containers.

Thoroughly scrub residual material of aqueous 1% ammonia and 5% isopropanol.

Collect water rinses in D.O.T.-approved containers, separate from material absorbed with vermiculite.

Polymerized material may be scraped up and disposed of separately.

Spilled material and water rinses should be disposed of as chemical waste in accordance with all current federal, state, and local regulations.

## ------SECTION VII-SPECIAL PRECAUTIONS------

Personal Protection: This material can cause severe eye irritation. Proper eye protection must be worn to prevent contact with the eyes. Wear proper protective gloves and clothing to prevent exposure. This product can cause skin irritation, and may cause allergic skin reactions. Use a chemical-resistant apron or other impervious clothing, if required; in order to prevent contamination of clothing. Remove contaminated clothing and wash before reuse. Do not ingest or swallow this material.

Storage: Store in a cool, dry place; keep removed from heat or open flames. Do not expose to moisture; moisture may cause polymerization and may make this product unusable. Keep container closed when not in use.

Ventilation Requirements: This product can cause respiratory sensitization. Do not breathe vapors, mist or spray. Use only with proper mechanical exhaust ventilation. Use an appropriate, properly fitted respirator if vapors exceed the recommended exposure limits.

Flammability/ Explosion Precautions: Keep away from intense heat, open flames.

#### ECCOFOAM FPH

------SECTION VIII-HEALTH HAZARD DATA-----

Routes of Exposure: Inhalation, skin and eye contact.

Medical Conditions Aggravated by Exposure: Fersons with asthmattype conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates.

Effects of Acute Overexposure

Emergency First Aid Procedures

Inhalation

Vapors may produce irritation and nausea. Prolonged breathing may cause asthma. This product is a strong respiratory sensitizer.

Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing difficult. Get immediate medical attention.

Eye contact

Severe irritation upon direct contact

Immediately flush eyes with water for 15 minutes; get medical attention

Skin contact

Irritation upon direct contact.
Prolonged exposure may result in skin sensitization

Remove contaminated clothing wash affected area with water.

Ingestion

Harmful if swallowed

Dilute with large quantities water only if victim is conscious and alert. Do not induce vomiting. Get immediate medical attention.

#### ECCOFOAM FPH

Effects of Chronic Overexposure:

Overexposure to toluene diisocyanate has resulted in decreased pulmonary function and fibrosis in workers. Oral gavage administration of TDI in corn oil to rats and mice for two years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for two years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established. However, TDI is included in the NTP list of substances "reasonably anticipated" to be carcinogenic in humans.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

EMERSON AND CUMING, INC. A GRACE CO. 77 DRAGON COURT, WOBURN, MA 01888

None

EMERGENCY/SAFETY INFORMATION: (617)935-4850 OR: (617)938-8630 ADDITIONAL MSDS: (617)828-3300 DUCUMENT NO.: 600073 DATE PREPARED: 11/13/89 SUPERCEDES: 9/12/84

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% by Weight

Non-hazardous curing agents, modifiers, pigments

100.0

Roiling Foint (\F): Not Determined Vapor Pressure at 25\C: < 1 mm Hg Volatiles (% by weight): Less than 1%

Appearance and Odor: Red liquid

PRINTED : 12/12/89

Non-hazardous Ingredients

Specific Gravity (water=1): 1.15 Solubility in water: Negligible Vapor Density: Heavier than air

## CATALYST 12-2H Red

-----SECTION IV-FIRE AND EXPLOSION HAZARD DATA----

Flash Point (NF): >200~F (Pensky-Martens Closed Cup: ASTM D93)

Flammable Limits: Not Established

Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog.

Unusual Fire or Explosion Hazards: Toxic vapors may be evolved upon exposure to heat or open flame.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus.

Product Stability: Product is stable; hazardous polymerization will not occur.

Incompatibilities: Strong exidizers.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, oxides of nitrogen.

Conditions to avoid: Storage in open containers, exposure to heat and/or open flame. Avoid drying out of material.

#### CATALYST 12~2H Red

SECTION VI-SPILL OR LEAK PROCEDURES

for small spills: Wipe up, or absorb with vermiculite or other absorbent material. Collect waste in sealed containers.

Scrub area with scapy water and rinse. Prevents rinses from entering drains or other waterways.

Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

For large spills: Dike area to contain spilled material and to prevent runoff into drains, sewers, and other waterways.

Shovel or pump to drum or salvage tank.

Absorb residual material with sand, vermiculite, or other absorbent material.

Scrape or shovel absorbed waste and absorbent into containers.

Scrub area with soapy water and rinse. Prevents rinses from entering drains or other waterways.

Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

_____SECTION VII-SPECIAL PRECAUTIONS-----

Personal Protection: Wear gloves and protective clothing to prevent exposure. Avoid breathing vapors. Use only with adequate ventilation.

Storage: Store in cool, dry place; keep removed from any heat or open flame.

Ventilation Requirements: Flexible ductwork should extend to areas of high concentration to prevent local buildup of vapor. Good general workplace ventilation is ლგვიტოლიძლძ.

Flammability/ Explosion Precautions: Handle as combustible material; Keep away from heat, sparks, open flame.

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### CATALYST 12-2H Red

SECTION VIII- HEALTH HAZARD DATA-----

Effects of Acute Overexposure

Emergency First Aid Procedures

Inhalation

Vapors can be irritating

Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing difficult. Get immediate medical attention.

Eye contact

Inmitation upon direct contact

Immediately flush eyes with water for 15 minutes; get medical attention

Skin contact

Possible irritation

Remove contaminated clothing wash affected area with water

Ingestion

Harmful if swallowed

Dilute with large quantities of water: induce vomiting only if victim is conscious and alert. Get immediate medical attention.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST